## Abstract

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Substituted 7- to 12-membered cycloalkanes which have leaving groups, in particular chlorine atoms, on tertiary ring carbons, a process for preparing them and their use as initiators for cationic polymerization, in particular the cationic polymerization of isobutene are described. Preferred compounds are 1,4-dichloro-1,4-dimethylcyclooctane, 1,5-dichloro-1,5-dimethylcyclooctane and mixtures thereof. They are prepared by addition of hydrogen chloride onto appropriately substituted cycloalkapolyenes.